SANTA CRUZ BIOTECHNOLOGY, INC.

CB1 (2F9): sc-293419

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cannabinoid receptors (CB1 and CB2) are G protein-coupled receptors that inhibit adenylate cyclase activity in response to psychoactive cannabinoids. CB1 is expressed in brain tissue and, in low levels, in testis. CB2 has been shown to be expressed only by cells of the immune system, specifically by HL-60 cells. The cannabinoid receptors mediate most of the cannabinoid-induced responses in a dose-dependent, stereoselective manner. Phosphorylation of CB1 on Serine 316 leads to a disruption of CB1-mediated inhibition of calcium channels and activation of potassium currents. This response system is thought to be involved in specific brain functions, such as nociception, control of movement, memory, and neuroendocrine regulation as well as having a possible role in brain development. In addition, CB1 may mediate the addictive behavior involved with the use of psychoactive cannabinoids, such as THC in marijuana.

CHROMOSOMAL LOCATION

Genetic locus: CNR1 (human) mapping to 6q15; Cnr1 (mouse) mapping to 4 A5.

SOURCE

CB1 (2F9) is a mouse monoclonal antibody raised against amino acids 1-110 representing partial length CB1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CB1 (2F9) is recommended for detection of CB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CB1 siRNA (h): sc-39910, CB1 siRNA (m): sc-39911, CB1 siRNA (r): sc-270168, CB1 shRNA Plasmid (h): sc-39910-SH, CB1 shRNA Plasmid (m): sc-39911-SH, CB1 shRNA Plasmid (r): sc-270168-SH, CB1 shRNA (h) Lentiviral Particles: sc-39910-V, CB1 shRNA (m) Lentiviral Particles: sc-39911-V and CB1 shRNA (r) Lentiviral Particles: sc-270168-V.

Molecular Weight of glycosylated CB1: 63 kDa.

Molecular Weight of unglycosylated CB1: 54 kDa.

Positive Controls: rat testis extract: sc-2400.

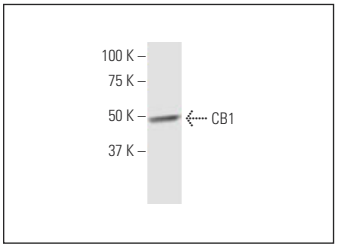
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

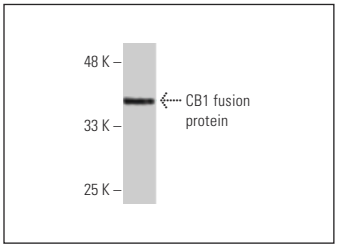
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CB1 (2F9): sc-293419. Western blot analysis of CB1 expression in rat testis tissue extract.



CB1 (2F9): sc-293419. Western blot analysis of human recombinant CB1 fusion protein.

SELECT PRODUCT CITATIONS

1. Ok, D.P., et al. 2018. Exercise without dietary changes alleviates nonalcoholic fatty liver disease without weight loss benefits. Lipids Health Dis. 17: 207.
2. Aguirre, E.C., et al. 2019. The endocannabinoid system is present in rod outer segments from retina and is modulated by light. Mol. Neurobiol. 56: 7284-7295.
3. Bae, J.Y. 2020. Resistance exercise regulates hepatic lipolytic factors as effective as aerobic exercise in obese mice. Int. J. Environ. Res. Public Health 17: 8307.
4. Correia-Sá, I.B., et al. 2021. AM251, a cannabinoid receptor 1 antagonist, prevents human fibroblasts differentiation and collagen deposition induced by TGF-β—an *in vitro* study. Eur. J. Pharmacol. 892: 173738.
5. Olianas, M.C., et al. 2021. Cannabinoid CB1 and CB2 receptors differentially regulate TNF-α-induced apoptosis and LPA1-mediated pro-survival signaling in HT22 hippocampal cells. Life Sci. 276: 119407.
6. Costa, L., et al. 2021. The major endocannabinoid anandamide (AEA) induces apoptosis of human granulosa cells. Prostaglandins Leukot. Essent. Fatty Acids 171: 102311.
7. Salbini, M., et al. 2021. Oxidative stress and multi-organel damage induced by two novel phytocannabinoids, CBDB and CBDP, in breast cancer cells. Molecules 26: 5576.
8. Metz, V.G., et al. 2022. Cannabidiol treatment prevents drug reinstatement and the molecular alterations evoked by amphetamine on receptors and enzymes from dopaminergic and endocannabinoid systems in rats. Pharmacol. Biochem. Behav. 218: 173427.
9. Ruga, S., et al. 2023. Novel approach to the treatment of neuropathic pain using a combination with palmitoylethanolamide and *Equisetum arvense L.* in an *in vitro* study. Int. J. Mol. Sci. 24: 5503.

RESEARCH USE

For research use only, not for use in diagnostic procedures.